UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

NOV 1 1996

In Reply Refer To: 3HW90

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Commander
Radford Army Ammunition Plant
Attn: SIORF-CO
P.O. Box 2
Radford, VA 24141-0099

Kenneth D. Dolph
Resident Manager
Alliant Techsystems Inc.
Radford Army Ammunition Plant
P.O. Box 1
Radford, VA 24141-0100

Re: Class 2 Permit Modification
For Corrective Action and Incinerator Operation
EPA I.D. No. VA1 21 002 0730

Dear Sirs:

The Environmental Protection Agency has received no public comments concerning your April 19, 1996 request for a modification to the above mentioned permit to allow the use of a revised Waste Analysis Plan for the hazardous waste incinerators. In accordance with regulation 40 C.F.R. § 270.42(b) promulgated under the Resource Conservation and Recovery Act (RCRA), 42 USC §§ 6921 - 6939(b), I have made the determination to approve your request to modify your permit to allow the use of the revised Waste Analysis Plan dated April 22, 1996. Therefore, the temporary authorization granted on May 10, 1996 is now permanent.

Should you have any questions concerning this matter, please feel free to contact Mary F. Beck at the above address or at (215)566-3429.

Sincerely,

Maria Parisi Vickers
Associate Division Director
Office of RCRA Programs

cc: Leslie Romanchik, VDEQ
R. Richardson
C.A. Jake, Alliant

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION III**
**841 Chestnut Building**
**Philadelphia, Pennsylvania 19107**

**SUBJECT:** Class 2 Modification of the RCRA Corrective Action and Incinerator Operation Permit
Radford Army Ammunition Plant
VA1 21 002 0730

**DATE:** NOV 1 1996

**FROM:** Robert E. Greaves, Chief
General Operations Branch (3HW90)

**TO:** Addressees

Attached for your concurrence is a letter granting Radford Army Ammunition Plant Class 2 modification request to operate the hazardous waste incinerator using a revised waste analysis plan. On May 10, 1996 EPA granted a temporary authorization for use of the revised waste analysis plan.

EPA's portion of the RCRA permit included limits on incinerator metal feed rates pursuant to the omnibus provision, § 3005(c)(3). The subsequent permit modification settling the Army's appeal of the permit also included the waste analysis plan.

On January 15, 1996 Alliant Techsystems, as co-permittee and operator of the hazardous waste incinerator, requested a Class 2 permit modification for Virginia Department of Environmental Quality's (VDEQ) portion of the RCRA permit. Part of the requested modification was the waste analysis plan, identical to the plan included in EPA's portion of the permit. On February 12, 1996 VDEQ granted a temporary authorization for most of the requested changes and on April 22, 1996, VDEQ granted a Class 2 permit modification for all of the requested changes.

Approval of this permit modification makes the waste analysis plan identical in each part of the RCRA permit.

CONCURRENCE

| | | | |
|---|---|---|---|
| Beck, M. | (3HW90) | M Beck | Date 11/1/96 |
| Gross, G. | (3HW80) | Gary Gross | Date 11/1/96 |
| Greaves, R | (3HW90) | Robert Greaves | Date 11/1/96 |
| Vickers, M. | (3HW03) | MV | Date 11/1/96 |

Attachments: Letter granting permit modification

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION III**
**841 Chestnut Building**
**Philadelphia, Pennsylvania 19107-4431**

NOV 1 1996

In Reply Refer To: 3HW90

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Radford Army Ammunition Plant
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EPA I.D. No. VA1 21 002 0730

Dear Sirs:

The Environmental Protection Agency has received no public comments concerning your April 19, 1996 request for a modification to the above mentioned permit to allow the use of a revised Waste Analysis Plan for the hazardous waste incinerators. In accordance with regulation 40 C.F.R. § 270.42(b) promulgated under the Resource Conservation and Recovery Act (RCRA), 42 USC §§ 6921 - 6939(b), I have made the determination to approve your request to modify your permit to allow the use of the revised Waste Analysis Plan dated April 22, 1996. Therefore, the temporary authorization granted on May 10, 1996 is now permanent.

Should you have any questions concerning this matter, please feel free to contact Mary F. Beck at the above address or at (215)566-3429.

Sincerely,

Maria Parisi Vickers
Associate Division Director
Office of RCRA Programs

cc: Leslie Romanchik, VDEQ
R. Richardson

| Concurrence | | | |
|---|---|---|---|
| Name | MBeck | Gross | Greaves |
| Mail Code | 3HW90 | 3HW80 | 3HW90 |
| Date | 11/1/96 | | |

C.A. Jake, Alliant

| Concurrence | | | |
|---|---|---|---|
| Name | Beck | Gross | Greaves |
| Mail Code | 3HW90 | 3HW80 | 3HW90 |
| Date | | | |

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION III**
**841 Chestnut Building**
**Philadelphia, Pennsylvania 19107**

**SUBJECT:** Class 2 Modification of the RCRA Corrective Action and Incinerator Operation Permit
Radford Army Ammunition Plant
VA1 21 002 0730

**DATE:** 5/7/96

**FROM:** Robert E. Greaves, Chief
General Operations Branch (3HW90)

**TO:** Addressees

Attached for your concurrence is a letter granting Radford Army Ammunition Plant temporary authorization, up to 180 days, to operate the hazardous waste incinerator using a revised waste analysis plan. EPA's portion of the RCRA permit included limits on incinerator metal feed rates pursuant to the omnibus provision, § 3005(c)(3). The subsequent permit modification settling the Army's appeal of the permit also included the waste analysis plan.

On January 15, 1996 Alliant Techsystems, as co-permittee and operator of the hazardous waste incinerator, requested a Class 2 permit modification for Virginia Department of Environmental Quality's (VDEQ) portion of the RCRA permit. Part of the requested modification was the waste analysis plan, identical to the plan included in EPA's portion of the permit. On February 12, 1996 VDEQ granted a temporary authorization for most of the requested changes and on April 22, 1996, VDEQ granted a Class 2 permit modification for all of the requested changes.

On March 28, 1996 Alliant Techsystems submitted to EPA an incomplete Class 2 permit modification request. The request failed to include appropriate signatures from Alliant Techsystems and the Army, as co-permittee. On April 17, 1996 the necessary signatures were submitted.

As required by 40 C.F.R. § 270.42(b), Alliant Techsystems published a public notice on April 3, 1996 containing the required information, scheduled a public meeting for April 22, 1996, and sent a notice to the facility mailing list supplied by VDEQ. The public comment period ends June 5, 1996.

Because of the technical nature of this permit modification request and because the modification is necessary for EPA's portion of the permit to conform to VDEQ's portion of the permit, ORC assistance and concurrence was not sought for this modification.

CONCURRENCE

| | | | |
|---|---|---|---|
| Gross, G. | (3HW80) | Gary Gross | Date 5/2/96 |
| Beck, M. | (3HW90) | M Beck | Date 5/2/96 |
| Greaves, R | (3HW90) | Dennis Zielinski | Date 5/7/96 |
| Vickers, M. | (3HW03) | MV | Date 5/10/96 |

Attachments: Letter granting temporary authorization

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

MAY 10 1996

In Reply Refer To: 3HW90

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Commander
Radford Army Ammunition Plant
Attn: SIORE-CO
P.O. Box 2
Radford, VA 24141-0099

J. Schaub, Jr.
Acting Resident Manager
Alliant Techsystems Inc.
Radford Army Ammunition Plant
P.O. Box 1
Radford, VA 24141-0100

Re: Temporary Authorization
Class 2 Permit Modification
For Corrective Action and Incinerator Operation
EPA I.D. No. VA1 21 002 0730

Dear Sirs:

In accordance with regulation 40 C.F.R. § 270.42(b) promulgated under the Resource Conservation and Recovery Act (RCRA), 42 USC §§ 6921 - 6939(b), I have made the determination to grant temporary authorization to allow the use of a revised Waste Analysis Plan for the hazardous waste incinerators.

On March 28, 1996, Alliant Techsystems as operator and co-permittee at Radford Army Ammunition Plant submitted a request to the the Environmental Protection Agency for a Class 2 permit modification to modify the Waste Analysis Plan, and the appropriate signatures were received on April 19, 1996. EPA is temporarily authorizing the use of the Waste Analysis Plan revised 4/22/96, which is the Waste Analysis Plan approved on April 22, 1996 by the Virginia Department of Environmental Quality modifying Virginia's

portion of the RCRA permit. This temporary authorization is effective for not more than 180 days from receipt of this letter or until November 7, 1996, or until a final determination is made on the modification request, whichever is sooner.

Should you have any questions concerning this Temporary Authorization, please feel free to contact Mary F. Beck at the above address or at (215) 597-7239. Please note that the telephone number is scheduled to change to 215-566-3429 on May 20, 1996.

Sincerely,

Maria Parisi Vickers
Associate Division Director
Office of RCRA Programs

cc: Leslie Romanchik, VDEQ
C.A. Jake, Alliant

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

In Reply Refer To: 3HW90

MAY 10 1996

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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Radford Army Ammunition Plant
Attn: SIORE-CO
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Radford, VA 24141-0099

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Acting Resident Manager
Alliant Techsystems Inc.
Radford Army Ammunition Plant
P.O. Box 1
Radford, VA 24141-0100

Re: Temporary Authorization
Class 2 Permit Modification
For Corrective Action and Incinerator Operation
EPA I.D. No. VA1 21 002 0730

Dear Sirs:

In accordance with regulation 40 C.F.R. § 270.42(b) promulgated under the Resource Conservation and Recovery Act (RCRA), 42 USC §§ 6921 - 6939(b), I have made the determination to grant temporary authorization to allow the use of a revised Waste Analysis Plan for the hazardous waste incinerators.

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portion of the RCRA permit. This temporary authorization is effective for not more than 180 days from receipt of this letter or until November 7, 1996, or until a final determination is made on the modification request, whichever is sooner.

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Sincerely,

Maria Parisi Vickers
Associate Division Director
Office of RCRA Programs

cc: Leslie Romanchik, VDEQ
C.A. Jake, Alliant

CONCURRENCES

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SYMBOL ▸ | 3HW90 | 3HW100 | 3HW90 | | | | | |
| SURNAME ▸ | Beck MBeck | Gross | for Greaves | | | | | |
| DATE ▸ | 5/2/96 | 5/2/96 | 5/7/96 | | | | | |

Alliant Techsystems Inc.
Radford Army Ammunition Plant
Route 114
P.O. Box 1
Radford, VA 24141-0100

April 30, 1996

96-815-140

U. S. Environmental Protection Agency
Region III - HW 90-1
841 Chestnut Building
Philadelphia, Pennsylvania 19109-4431

Attention: Ms. Mary Beck

Subject: Permit Modification for the Radford Army Ammunition Plant

Dear Ms. Beck:

Enclosed is the Virginia Department of Environmental Quality's official approval of Radford Army Ammunition Plant's substantive permit modification. On April 22, 1996, Radford Army Ammunition Plant held a public meeting related to the permit modification submitted to EPA; no members of the public attended and no comments were received. If you have any questions concerning these activities, please call Mark Sullivan at (540) 639-8745.

Very truly yours,

C. A. Jake
Environmental Manager

Attachment

MJSullivan:gps

Kirkner Heim 96-062 Library Richard

# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

**April 22, 1996**

Peter W. Schmidt
Director

P. O. Box 10009
Richmond, Virginia 23240-0(
(804) 762-4000

C.A. Jake
Environmental Manager
Radford Army Ammunition Plant
PO Box 1
Radford VA 24141-0100

Re: Hazardous Waste Management Permit Modification for the Radford Army Ammunition Plant (VA1210020730)

Dear Ms. Jake:

The Department of Environmental Quality has received no public comments concerning your January 15, 1996 request for modification of the above mentioned permit for storage and treatment of hazardous waste. Consequently, pursuant to VHWMR § 11.21.B.6.b.(1), the Department hereby approves the substantive modification request.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty (30) days from the date of service of this decision within which to initiate an appeal of this decision by filing a Notice of Appeal with:

Peter W. Schmidt, Director
Department of Environmental Quality
629 E. Main Street
Richmond, Virginia 23219

In the event that this decision is served to you by mail, the date of service will be calculated as three days after the postmark date. Refer to Part 2A of the Rules of the Supreme Court of Virginia, which describes the required contents of the Notice of Appeal, including specification of the Circuit Court to which the appeal is taken, and additional requirements governing appeals from the decisions of administrative agencies.

The requested modification which was not granted temporary authorization, the addition of off-specification Dinitrotoluene as a permitted waste stream, has also been included in the final modification. Waste feed limits for this constituent have been included as new Permit Condition IV.C.23.

Modified text of pages 32 through 34 of the Permit, as well as modified Attachment BB to the Permit (pages BB-1 through BB-9) are enclosed with this letter. These pages should be inserted into your permit in place of the current pages. Appendix BB-1 and Appendix BB-5 are unchanged from the temporary authorization and should already have been inserted in your permit. If you should have any further questions in this matter please contact Doug Brown of my staff at (804) 698-4182.

Yours truly,

Leslie A. Romanchik

for Peter W. Schmidt, Director
Department of Environmental Quality

Enclosures

cc: Roanoke Regional Office (with enclosures)
Robert Greaves, EPA Region III (with enclosures)
Debbie Miller, DEQ (without enclosures)
Claire Slaughter, DEQ (without enclosures)

IV.C.21. Compliance with the operating conditions specified in Permit Conditions IV.C.8. through IV.C.20. will be regarded as compliance with the required performance standards in the Permit Conditions IV.C.4. through IV.C.7. However, any evidence indicating that compliance with the operational conditions is insufficient to ensure compliance with the performance standards, may justify modification or revocation and reissuance of the Permit by the Director who shall have sole discretion pursuant to VHWMR § 11.19.

IV.C.22. Compliance with all operating conditions specified in Section IV.C. and Table IV.E.1. of this Permit shall be on an instantaneous basis, unless otherwise specified.

IV.C.23. The feed rate of Dinitrotoluene to the incinerator shall be less than 204 pounds per hour.

**IV.D. INSPECTION REQUIREMENTS**

IV.D.1. The Permittees shall inspect the incineration unit in accordance with the Inspection Schedule, Permit Attachment CC, and shall complete the following as part of these inspections:

a. The Permittees shall visually inspect the incinerator and the associated equipment thoroughly (including stack, pumps, valves, pipes, flanges, welds, bolted connections, threaded connections, etc.) for leaks, spills, fugitive emissions, rust, wear, and signs of tampering.

b. The Permittees shall thoroughly, visually inspect the instrumentation for out-of-tolerance monitoring and proper recorded operational data and accurate calibration.

c. The Permittees shall test the emergency waste feed cut-off system and associated alarm at least weekly to verify operability, as specified in Permit Condition IV.F.1.

d. The Permittees shall retain all continuous recordings for at least three years.

**IV.E. MONITORING REQUIREMENTS**

IV.E.1. The Permittees shall maintain, calibrate, and operate all monitoring equipment and shall record data when incinerating hazardous waste as specified in Table IV.E.1.

IV.E.2. Recording of data from continuous monitoring of parameters, as required by Table IV.E.1., shall, at a minimum, consist of a monitor which continuously samples the regulated parameter without interruption, and evaluates the detector response at least one each 15 seconds, and computes and records the average value at least every 60 seconds.

**IV.F. WASTE FEED CUT-OFF REQUIREMENTS**

IV.F.1. The Permittees shall maintain the system specified below (see Table IV.F.1) to automatically cut-off the hazardous waste feed to the incinerator at the levels specified below. Hazardous waste feed shall be fed to the incinerator only when all of the instruments required by this condition are on-line and properly operating.

**IV.G. TRAINING OUTLINE**

The Permittees shall follow the procedures in the Training Outline, Permit Attachment DD.

**IV.H. CONTINGENCY PLAN**

The Permittees shall follow the procedures in the Contingency Plan, Permit Attachment EE.

**IV.I. CLOSURE**

The Permittees shall follow the procedures in the Closure Plan, Permit Attachment FF.

**IV.J. RECORDKEEPING**

IV.J.1. The Permittees shall record and maintain in the operating record all the monitoring and inspection data compiled under the requirements of this Permit including but not limited to data recorded pursuant to Permit Condition IV.E. All operating parameters shall be recorded in the same units as the applicable permit limit in conditions IV.C.8. through IV.C.20.

IV.J.2. The Permittees shall record and maintain in the operating record all waste feed composition determinations made pursuant to Section BB.4. of the Waste Analysis Plan, Attachment BB.

IV.J.3. The Permittees shall record in the operating record the date and the time of all automatic waste feed shut-offs, including the triggering parameters, reasons for the shut-offs, and the corrective actions taken. The Permittees shall also record all failures of the automatic waste feed shut-off to function properly and any corrective action taken.

# Attachment BB

# Waste Analysis Plan

Attachment BB
Waste Analysis Plan

BB.1. Waste Characteristics

Hazardous wastes which may be managed at the permitted treatment and storage area are waste propellants and spill "clean-up" residues generated at the facility which are hazardous due to their reactivity (D003). Only hazardous wastes which are consistent with all requirements of this Permit and Waste Analysis Plan will be stored, treated or incinerated. No wastes generated outside of the facility will be received, stored, treated, or incinerated at the permitted treatment and storage area.

Hazardous wastes managed in accordance with this permit will be limited to the following:

a. Wastes which exhibit only the following hazardous characteristic(s);

   i. Reactivity (hazardous waste number D003) as specified in VHWMR § 3.8.; or

   ii. Reactivity (hazardous waste number D003) as specified in VHWMR § 3.8., and the characteristic of toxicity as specified in VHWMR § 3.9. for one or both of the following contaminants;

      A. Lead (hazardous waste number D008); and

      B. 2,4-Dinitrotoluene (hazardous waste number D030).

b. Wastes which are not listed pursuant in VHWMR Appendix 3.1; and

c. Wastes which are one of the following:

   i. Off specification propellants identified in Appendix BB-1;

   ii. Off specification intermediates from the production of propellants identified in Appendix BB-1; or

   iii. NG slums as described in Appendix BB-2.

   iv. Off specification Dinitrotoluene from the production of Dinitrotoluene

Radioactive wastes will not be stored, treated or incinerated at the permitted treatment and storage area.

## BB.2. Waste Composition

The composition of the waste propellant mixtures fed to the incinerators varies due to changes in the production schedule. Off-specification propellants (including production intermediates) and nitroglycerine (NG) slums are the two classes of waste which may be stored, treated and incinerated at the permitted treatment and storage area.

### BB.2.a. Propellants

There are five major categories of propellants produced at the facility. These categories are:

- Single base propellants (primary constituent nitrocellulose);
- Double base propellants (primary constituents nitrocellulose and nitroglycerine);
- Triple base propellants (primary constituents nitrocellulose, nitroglycerine, and nitroguanidine);
- Cast and extruded propellants; and
- Miscellaneous items

There are a number of specific propellants in each category. Appendix BB-1 identifies the chemical constituents of each of the specific propellants currently produced at the facility. If the Permittees wish to manage waste from new propellant formulations which are not explicitly identified in Appendix BB-1, they must request a permit modification. Should the Department agree that a new propellant formulation is substantially similar to currently permitted formulations, the new formulation may be added to Appendix BB-1 as a minor permit modification which requires prior Department approval, pursuant to VHWMR § 11.21.A. Propellant formulations which are not substantially similar to existing formulations may only be managed subsequent to substantive or major modifications as identified in VHWMR Appendix 11.2.L.6.

A new propellant formulation may be deemed substantially similar to existing formulations if it utilizes as primary energetic constituents only the substances specified in i. through viii. below, and does not contain other minor constituents in concentrations greater than found in currently permitted formulations.

i. Nitrocellulose
ii. Nitroglycerine
iii. Nitroguanidine
iv. Ammonium Perchlorate
v. Ammonium Nitrate
vi. Cyclotetramethylenetetranitramine (HMX)

vii. Cyclotrimethylenenitramine (RDX)
viii. Methyl, Ethyl, or Butyl 2-nitratoethyl-nitramine (NENA)

The Department may determine on a case by case basis whether formulations which contain greater concentrations of minor constituents or which contain constituents not currently found in permitted formulations, are substantially similar to existing formulations.

BB.2.b. NG Slums and Dinitrotoluene

The term "NG slums" refers to a waste consisting of nitroglycerine, triacetin, and sawdust. The sawdust and NG typically originate from spills of NG in the production area. Triacetin is used to desensitize the nitroglycerine. Appendix BB-2 specifies the ranges of concentrations in which these constituents may be present in the NG slums.

Waste Dinitrotoluene may result from the manufacture of commercial Dinitrotoluene at the facility. Waste Dinitrotoluene will not be fed to the incinerator at a rate greater than specified by Permit Condition IV.C.23.

BB.2.c. Other wastes

Incinerator ash, which consists of the solids which accumulate at the kiln breeching, evaporative cooler, fabric filter, precooler, and scrubber, is accumulated in containers. Ash collected in this manner is analyzed for reactivity by methods specified in Appendix BB-3 and for Toxicity Characteristic Leaching Procedure (TCLP) Toxicity (SW 846 Method 1311). If the ash exhibits a characteristic of hazardous waste, then it will be managed as a hazardous waste in accordance with all applicable requirements of the Virginia Hazardous Waste Management Regulations. If the ash does not exhibit a characteristic of a hazardous waste it may be managed as a solid waste in accordance with all applicable requirements of the Virginia Solid Waste Management Regulations.

Incinerator scrubber liquid drains from the gas precooler and packed bed liquid scrubber and is collected in the neutralization tank. In the neutralization tank plant water is added as necessary for volume make-up and the solution pH is adjusted by the addition of caustic. Effluent from the neutralization tank returns directly to the gas precooler and packed bed liquid scrubber. Effluent from the neutralization tank also flows to the brine tank and subsequently to the evaporative cooler. In order to demonstrate compliance with the requirements of Permit Condition IV.C.19., effluent from the neutralization tank

will be monitored for total dissolved solids, total suspended solids, and pH as specified in Table BB-1.

Two waste streams containing diethylene glycol (DEG) and triethylene glycol (TEG) are generated from the washing of nitroglycerin (NG) and diethyleneglycol dinitrate (DEGDN) with water to remove the desensitizing agents DEG and TEG from the NG and DEGDN. These waste streams contain water (80-85%) and glycol (15-20%) and are used in the production of slurry batches in Tanks T-1A and T-1B. The slurry of the glycol waste water and waste propellant is then incinerated.

A solid waste stream which consists of waste nitrocellulose may also be incinerated. This nitrocellulose is primarily material known as "pit cotton", which is non-reusable scrap from production operations, and scrap from the nitrocellulose dehydrating press operations. All such nitrocellulose is generated and stored in a water wet state. In the water wet state this material is not reactive. Only water wet nitrocellulose which is not a hazardous waste may be managed at the permitted treatment and storage area.

## BB.3. General Waste Analysis Requirements

All hazardous wastes managed in accordance with this permit will be subjected to waste analysis pursuant to this Permit and Waste Analysis Plan prior to being stored, treated, or incinerated at the permitted treatment and storage area.

### BB.3.a. Waste Determination

For each solid or hazardous waste which may be used as a slurry component (see Section BB.3.d.iii.), a hazardous waste determination will be made in accordance with Virginia Hazardous Waste Management Regulations (VHWMR) § 6.1. At a minimum, the determination will identify:

i. Whether the waste is radioactive;

ii. Whether the waste is listed under VHWMR Appendix 3.1.; and

iii. Whether the waste is a characteristic hazardous waste in accordance with VHWMR §§ 3.5 through 3.9.

The results of all hazardous waste determinations will be maintained in the facility operating record.

BB.3.b. Waste Profiling

At all times an accurate profile of every hazardous waste stored, treated, or incinerated at the permitted treatment and storage area will be maintained in the facility operating record. A hazardous waste profile will identify the hazardous constituents and characteristics necessary for proper designation and management of the waste stream. A profile will also include concentrations of all VHWMR Appendix 3.6 constituents in that waste.

Except as specified in BB.3.c. below, hazardous waste profile information and hazardous waste determinations pursuant to Section BB.3.a. above will include or consist of:

i. Existing published or documented data on the hazardous waste or on waste generated from similar processes. The use of existing published or documented data will include confirmation by the generator that the process generating the hazardous waste has not significantly changed; or

ii. Laboratory analysis of the waste stream consisting of chemical, physical, and/or biological analyses using appropriate tests from the EPA document SW-846 Test Methods for Evaluating Solid Waste, 3rd Edition, 1986, as updated, or equivalent tests approved in advance in writing by the Department.

BB.3.c. Frequency of Profiling

Every waste profile will be reviewed at least annually in order to confirm that it still accurately represents the waste stream. A waste stream will be reprofiled whenever the permittees have been notified, or have reason to believe, that the process or operation generating the hazardous waste has significantly changed.

BB.3.d. Other Analyses

The following analyses will be performed in addition to any other analytical requirements of this Waste Analysis Plan. Should the results of analyses pursuant to i. and ii., below, show any of these wastes to be hazardous, such waste(s) will not be stored, treated, or incinerated at the permitted treatment and storage area unless the Permit is modified pursuant to VHWMR § 11.21.

i. DEG and TEG containing waste streams will be analyzed annually for the hazardous characteristic of ignitability using SW-846 Methods 1010 or 1020.

ii. DEG and TEG containing waste streams, the incinerator scrubber liquid, and waste nitrocellulose will be analyzed annually for toxicity using the Toxicity Characteristic Leaching Procedure (TCLP) (SW-846 Method 1311) for all contaminants specified in VHWMR § 3.9.

iii. All components of slurry batches, except the plant water supply, will be analyzed for all constituents specified in Section BB.4.a. Sampling and analysis methods will be as specified in Section BB.4.b. and Table BB-1. Frequency of analysis will be as specified in Section BB.4.b. Components of slurry batches may only include:

A. Off specification propellants;
B. Off specification propellant production intermediates;
C. Water from the plant water supply;
D. NG slums;
E. Waste Dinitrotoluene
F. DEG and/or TEG containing wastewater; and
G. Waste nitrocellulose.

BB.3.e. Frequency of Analysis

Sampling and analysis will be performed at the frequency specified in Table BB-1. In addition, after a modification in the process equipment, the process operation parameter(s), or raw materials, sufficient analysis will be conducted to verify the reactive hazardous waste feed to the incinerator is within physical and chemical composition limits specified in this Permit.

Incinerator ash will be sampled and analyzed when required by the Operating Procedure "Dumping and Sampling Ash Buggies" (Operation No. 27), Appendix BB-4, or quarterly, whichever is sooner.

BB.3.f. Quality Assurance and Quality Control

All sampling and analyses performed in accordance with any part of this Waste Analysis Plan will, at a minimum, include all quality assurance and quality control (QA/QC) procedures specified in Chapter One of SW-846. Records of specific analytical methods utilized from SW-846 and appropriate QA/QC documentation will be maintained with the results of all analyses.

## BB.4. Waste Feed Composition Determination

### BB.4.a. Regulated Constituents

In order to assure compliance with the waste feed requirements of Sections IV.B. and IV.C. of the Permit, the composition of each container of hazardous waste received at the permitted treatment and storage area will be determined. From this information the composition of each batch of slurry fed to the incinerator, including the weight fraction of waste solids, will also be determined. The concentration of each of the following constituents will be determined:

i. Ash;
ii. Chlorine; and
iii. The following metals:
   - A. Antimony
   - B. Arsenic
   - C. Barium
   - D. Beryllium
   - E. Cadmium
   - F. Chromium
   - G. Lead
   - H. Mercury
   - I. Nickel
   - J. Selenium
   - K. Silver
   - L. Thallium

### BB.4.b. Constituent Concentrations in Slurry Batch Components

Each component of every slurry batch will be analyzed for all constituents specified in Section BB.4.a., above. Each container of reactive hazardous waste will be analyzed separately prior to grinding and slurrying operations. If DEG and/or TEG wastewater is used for slurry make up, a representative sample of the wastewater will be analyzed prior to slurrying operations.

As an alternative to analysis of each component of every batch, statistical procedures may be used to establish an upper tolerance limit for the concentration of constituents in slurry components. The statistical procedures which may be used for this purpose are specified in Appendix BB-5 of this Waste Analysis Plan.

The concentration of the constituents specified in Section BB.4.a. above, will be determined by the analytical methods specified below. All analytical non detections will be assumed to be present at the method detection limit.

i. The ash concentration will be determined using the method specified in Appendix BB-3.

ii. The concentration of Chlorine will be determined using American Society for Testing and Materials (ASTM) Method D808-81.

iii. The concentrations of metal compounds will be determined using SW-846 Methods 7040, 7061A, 7080, 7090, 7130, 7190, 7420, 7470 or 7471, 7520, 7741, 7760A, and 7840.

If the concentration of ash or chlorine in any individual container of reactive hazardous waste exceeds the value specified in Permit Condition IV.B.4. or IV.B.5., respectively, that container of waste will not be managed at the permitted treatment and storage area.

BB.4.c. Constituent Concentrations in Slurry Batches

The weight of each of the constituents contributed by each container of reactive hazardous waste and waste nitrocellulose added to a batch will be calculated by multiplying the concentration of each constituent in that waste by the premeasured weight of the waste (the weight of the contents of each container of waste is determined at the point of generation). As specified in Section BB.4.b., above, the concentration of each constituent will be measured directly or an upper tolerance limit of the concentration will be used.

When DEG and/or TEG containing wastewater is used in the preparation of the waste slurry, the weight of all constituents contributed from this source will also be determined. The weight of each constituent derived from this source will be calculated by multiplying the concentration of each constituent in the material, as determined pursuant to Sections BB.3.d.iii. and BB.4.b., above, by the weight of the material added to the slurry batch. The weight of the material may be measured directly or calculated from volume and specific gravity measurements.

The weight of each constituent in each batch will be calculated as the sum of the weights from all sources. The total weight of the slurry batch will be calculated as the sum of premeasured weights of all hazardous waste added to the batch plus the weight of all liquid (i.e., water and

DEG/TEG containing wastewater) added. Liquid weights may be measured directly or calculated from volume and specific gravity measurements.

From the constituent total weights and total slurry weight, the concentration of each constituent in the total slurry batch will be determined. From the calculated concentrations, a maximum slurry feed rate which assures compliance with the requirements of Permit Conditions IV.C.17 or IV.C.18., as relevant, will be calculated for each constituent. This calculation will take the form:

$$a \div b = c$$

where: a = The permitted constituent feed rate
b = The constituent concentration in the slurry
c = Resultant maximum permitted slurry feed rate

BB.5. Slurry Solid/Liquid Composition

From the premeasured weights of all waste propellant added to the batch and the calculated total weight of the slurry batch, the weight fraction of waste propellant solids in the slurry will be calculated. Pursuant to Permit Condition IV.B.2. the slurry will never exceed 30% solids by weight (i.e., weight fraction $\leq 0.30$). From the calculated weight fraction of waste propellant solids, a maximum slurry feed rate which assures compliance with the requirements of Permit Condition IV.C.10. will be calculated. This calculation will take the form:

$$a \div b = c$$

where: a = The permitted waste solids feed rate
b = The weight fraction of solid in the slurry
c = Resultant maximum permitted slurry feed rate

BB.6. Slurry Feed Rate

The slurry feed rate for any slurry batch will not exceed the lowest value calculated as specified in Sections BB.4.c. and BB.5. above. Additionally, the slurry feed rate will never exceed the value specified in Permit Condition IV.C.9. Slurry mass feed rate will be measured directly by a Micro Motion mass flowmeter (also known as a Coriolis mass flowmeter) in the slurry feed line between the slurry loop and the kiln slurry lance.

Alliant Techsystems Inc.
Radford Army Ammunition Plant
Route 114
P.O. Box 1
Radford, VA 24141-0100

April 17, 1996

96-815-132

Ms. Mary Beck
U. S. Environmental Protection Agency
Region III - HW 90-1
841 Chestnut Building
Philadelphia, PA 19109-4431

Attention: Mary Beck

Subject: Permit Modification for Radford Army Ammunition Plant

Dear Ms. Beck:

Enclosed is a certification statement to accompany Radford Army Ammunition Plant's request for permit modification. Also enclosed are a copy of the letter sent to the distribution list and a copy of the correspondence from the Virginia Department of Environmental Quality approving permit modification. If you have any questions, please call Mark Sullivan at (540) 639-8745.

Very truly yours,

C. A. Jake

C. A. Jake
Environmental Manager

Attachment(s)

MJSullivan:gps

Alliant Techsystems Inc.
Radford Army Ammunition Plant
Route 114
P.O. Box 1
Radford, VA 24141-0100

April 9, 1996

96-815-122

U. S. Environmental Protection Agency
Region III - HW90-1
841 Chestnut Building
Philadelphia, PA 19109-4431

Attention: Mary Beck

Subject: Permit Modification for Radford Army Ammunition Plant

Dear Ms. Beck:

Enclosed is a confirmation copy of the Permit Modification Public Notice as it appeared in the Roanoke Times and World News on April 3, 1996. If you have any questions, please call Mark Sullivan at (540) 639-8745.

Very truly yours,

C. A. Jake
Environmental Manager

Attachment

MJSullivan:gps

**PUBLIC NOTICE REGARDING A PUBLIC MEETING AND COMMENT PERIOD FOR A PROPOSED MODIFICATION OF A RCRA PART B PERMIT FOR A HAZARDOUS WASTE MANAGEMENT FACILITY**

An existing hazardous waste management facility operated by Alliant Techsystems, Inc. and located at the Radford Army Ammunition Plant, State Route 114 (P. O. Box 1), Radford, Virginia 24141 has requested that the United States Environmental Protection Agency (Region III) modify the facility operating permit. The requested changes are classified as Class II modifications by 40 CFR 270.42. EPA Region III will be accepting public comment on the proposed modifications. An identical modification has recently been made to a similar permit administered by the Department of Environmental Quality. The permitted facility operations currently consist of treatment and incineration of waste propellants resulting from production operations at the Radford Army Ammunition Plant. The facility proposes the following modifications:

1. Amend Appendix BB-1 to update the list of propellant waste streams permitted for incineration.
2. Allow for the incineration of Dinitrotoluene.
3. Allow for the incineration of new propellant formulations which are substantially similar to presently permitted formulations.

EPA Region III will be accepting public comments on this proposed modification until June 5, 1996, which is at least 60 days from the publication of this notice. There will also be a public meeting on April 22, 1996 at 7:30 p.m. at the following location:

Radford Municipal Building
619 2nd Street
Radford, Virginia

The public meeting will be conducted by the representatives of the facility, not EPA Region III. Any testimony given there will not become part of the public record and need not be considered in the final decision to grant or deny the modification request. Any interested party wishing to comment to EPA Region III on this modification request must do so in writing. In addition, the permittee's compliance history during the life of the permit being modified is available from EPA Region III's contact person. Comments should be postmarked before the end of the comment period (June 5, 1996) and sent to:

Mary Beck
EPA Region III
841 Chestnut Street
Philadelphia, PA 19107
Telephone: (215) 597-7239

The current operating permit, the proposed modifications, and the supporting documentation can be viewed during the hours of 8:00 a.m. and 4:00 p.m. at the Radford Army Ammunition Plant - telephone (540) 639-8745.

Interested parties may also contact the facility for more information. Inquiries should be directed to:

Mark Sullivan
Radford Army
Ammunition Plant
P. O. Box 1
Radford, Virginia 24141
Telephone: (540) 639-8745

ALLIANT TECHSYSTEMS

Alliant Techsystems Inc.
Radford Army Ammunition Plant
Route 114
P.O. Box 1
Radford, VA 24141-0100

March 28, 1996

96-815-087

U. S. Environmental Protection Agency
Region III - 3HW90-1
841 Chestnut Building
Philadelphia, PA 19109-4431

Attention: Ms. Mary Beck

Subject: Permit Modification for the Radford Army Ammunition Plant

Dear Ms. Beck:

Radford Army Ammunition Plant (RAAP) requests modifications to the permit entitled, "United States Environmental Protection Agency Permit for Corrective Action and Incinerator Operation." These modifications are considered to be Class 2 pursuant to CFR 40 270.42. The specific modifications and justification for their approval and temporary authorization are provided below. Identical modifications to the Virginia Department of Environmental Quality (DEQ) Hazardous Waste Management Permit (VA1210020730) have already been approved.

RAAP requests changes to Attachment BB of the Permit, the Waste Analysis Plan. These modifications are proposed to Section BB.2.a, Appendix BB-1, and Section BB-5.4. The specific changes are submitted as Appendix 1 of this letter.

The modifications are proposed to Section BB.2.a and Appendix BB-1 in order to update the list of waste propellant streams permitted for incineration. The original Appendix BB-1 of the permit was not a complete and up-to-date list of waste propellant formulations generated at RAAP. The proposed modification to Appendix BB-1 updates this list. The language in Section BB.2.a is proposed to account for the development of new formulations consisting of the same base constituents. RAAP routinely processes small quantities of developmental propellants that are substantially similar to existing formulations. Waste material generated form developmental processing is presently excluded from incineration. Specifically the language states that, "If the Permittees wish to manage waste from new propellant formulations which are not explicitly identified in Appendix BB-1, they must request a permit modification. Should the

Department agree that a new propellant formulation is substantially similar to currently permitted formulations, the new formulation may be added to Appendix BB-1 as a minor permit modification which requires prior Department approval, pursuant to VHWMR 11.21 A. Propellant formulations which are not substantially similar to existing formulations may only be managed subsequent to substantive or major modifications as identified in VHWMR Appendix 11.2.L.6. .... A new propellant formulation may be deemed substantially similar to existing formulations if it utilizes as primary energetic constituents only the substances specified in i through viii below, and does not contain other minor constituents in concentrations greater than found in currently permitted formulations.

i. Nitrocellulose
ii. Nitroglycerine
iii. Nitroguanidine
iv. Ammonium perchlorate
v. Ammonium nitrate
vi. Cyclotetramethylenetetranitramine (HMX)
vii. Cyclotrimethylenenitramine (RDX)
viii. Methyl, Ethyl, or Butyl -2nitratoethyl-nitramine (NENA)

The Department may determine on a case by case basis whether formulations which contain greater concentrations of minor constituents or which contain constituents not currently found in permitted formulations, are substantially similar to existing formulations."

Modifications to Section BB-5.4. of the permit are requested to minimize redundant sampling and analysis of non-carcinogenic metals. For several of these metals the data generated during the first year of permit compliance demonstrate that individual metal feed rates could not physically be exceeded. The specific language modification in Section BB-5.4 states that, "If certain criteria are met, the sampling and analytical frequencies specified above may be disregarded in some instances. A waste stream need only be analyzed at least every 100th day on which it is generated, or at least once a year, whichever is sooner, for those constituents which meet all of the criteria specified in a. through c. below. All other constituents of that waste stream must continue to be analyzed at the frequencies specified above.

a. The constituent is a metal specified in Permit Condition IV.C.18.a.

b. At least 10 valid analytical results have been obtained for the constituent in the specified waste stream; and

c. A constituent feed rate which is calculated from the UTL (either parametric or non-parametric) for that constituent and waste stream at a maximum solids feed rate of 251 lbs/hr (pursuant to Permit Condition IV.C.10.) is not larger than 0.01 times the maximum feed rate specified in Permit Condition IV.C.18.a."

As noted above, RAAP requests that EPA Region III grant a temporary authorization of these modifications pursuant to 40 CFR 270.42. Temporary authorization is necessary to allow RAAP to incinerate the substantially similar waste streams presently precluded by the permit.

Should you have any further questions please contact Mark Sullivan at (540) 639-8745.

Very truly yours,

C. A. Jake
Environmental Manager

Attachment

/MJSullivan